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|--|-------------|----------------------|-------------------------------|------------------|
| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.           | CONFIRMATION NO. |
| 10/540,004   | 06/21/2005  | Yasushi Takano       | 0033-1008PUS1                 | 8050             |
| 2292 7590 01/22/2007<br>BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      | EXAMINER<br>ABU ALI, SHUANGYI |                  |
|  |             |                      | ART UNIT                      | PAPER NUMBER     |
|  |             |                      | 1755                          |                  |
| SHORTENED STATUTORY PERIOD OF RESPONSE   |             | NOTIFICATION DATE    | DELIVERY MODE                 |                  |
| 3 MONTHS   |             | 01/22/2007           | ELECTRONIC                    |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/22/2007.

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|                              |                               |                               |  |
|------------------------------|-------------------------------|-------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/540,004 | Applicant(s)<br>TAKANO ET AL. |  |
|                              | Examiner<br>Shuangyi Abu-Ali  | Art Unit<br>1755              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>21 Jun. 2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

(1)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1- 3, and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,617,409 to Yukawa et al., in view of U. S. Patent NO. 6,177,196 B1 to Brothers et al.

Regarding claims 1 and 7, Yukawa et al. disclose a flaky aluminum pigment, which has a coating made from a copolymer resin composition. The copolymer resin is made from polymerizable monomers such as phosphate group monomer, phosphoric acid monomer, methacrylate base monomer and other polymerizable polymers (col. 1, line 13; col. 2 line 1; line 5; line 7 and col. 3, lines 28-29). But they are silent about the copolymer having alkyl fluoride group as applicants set forth in claim 1.

However, Brothers et al. disclose a copolymer resin composition, which is suitable for metal coating, having a phosphoric-containing fluoropolymer (col. 1, lines 47 and 48). Fluorinated monomers such as vinylidene fluoride, trifluoroethylene, hexfluoropropylene or the likes can be used in the copolymer composition (col. 3, lines 11-40).

Therefore, it would have been obvious to one of ordinary skill in that art at the time of invention to utilize Brothers et al. disclosure to make the flaky aluminum pigment of Yukawa et al. coated with a copolymer resin composition having alkyl fluoride and phosphate units as applicant set forth in claim1, motivated by the fact that the copolymer of brothers et al. used in coatings renders good "chemical resistance, release lubricity, anti-staining, ice release, low dielectric constant" to the pigment (col. 5, lines 37-40).

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Regarding claims 2 and 3, Yukawa et al disclose methyl methacrylate monomer or styrene can be copolymerized with monomers of phosphate group unit (col. 3, lines 36-50).

Regarding claim 6, Brothers et al. disclose that the copolymer resin composition can be used in solvents (col. 4, lines 58 and 59).

Regarding claim 8, Brothers et al. disclose the copolymer of their invention can be mixed with binders to coat on various substrate (col. 4, lines 49-55).

Regarding claims 9 and 10, Yukawa et al. disclose a coating composition, which contains thermosetting resin such as polyester (col. 4, line 54), used in electrostatic coating (col. 5, line 57).

Regarding claim 11, Brothers et al. disclose that the copolymer can be used to coat metal to obtain a finish (col. 11, lines 15 and 16).

(2)

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over combined teaching of U. S. Patent No. 6,617,409 to Yukawa et al. and U. S. Patent NO. 6, 177,196 B1 to Brothers et al., further in view of U. S. Patent No. 6,489,396 B2 to Nakamura et al.

Regarding claim 4, Yukawa et al. disclose that 2-methacryloyloxyethyl acid phosphate is one of the phosphoric acid monomer used in the copolymerization (col. 2, line 61).

Although Yukawa et al. and Brothers et al. combined disclosure teaches a flakey pigment coated with a copolymer comprising alkyl fluoride and phosphate groups, they are silent about using perfluorooctylethyl acrylate in the copolymer composition.

However, Nakamura et al., also drawn to the study of a copolymer composition suitable for metal coating, disclose that 2-methacryloyloxyethyl acid phosphate (col. 7, lines 36 and 37) and perfluorooctylethyl acrylate (col. 8, line 51 and 52) used as monomers in the copolymer resin composition.

Therefore, It would have been obvious to one of ordinary skill in art at the time of invention by applicant to use Nakamura et al. copolymer in the flaky pigment of combined teaching of Yukawa et al. and Brothers et al., motivated by the fact that such resin composition will render good weather resistance to the pigment (col. 1, lines 10-35).

(3)

Claims 5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over combined teaching of U. S. Patent No. 6,617,409 to Yukawa et al. and U. S. Patent No. 6,177,196 B1 to Brothers et al., further in view of U. S. Patent No. 5,216,081 to Mohri et al.

Regarding claim 5, Brothers et al and Yukawa et al. combined disclosure teaches a pigment coated with a copolymer resin composition set forth in section (1). But they are silent about the content of fluorine and phosphate group in the composition as applicant set forth in claim 5.

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However, Mohri et al., also drawn to make a copolymer resin composition suitable for pigment coating, disclose a copolymer composition having a fluoro-unit content in the range of 20 - 60 mole % (col. 2, lines 40-41), other copolymerizable monomers content, which can be phosphate unit, in a range of 0 - 45 mole% (col. 5, lines 56-60) and a molecular weight in the range of 3000 to 100000 (col. 7, lines 14-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to make a flaky pigment with copolymer coating having the mole ration of Mohri et al., motivated by the fact the copolymer with such ration has good weather resistance and stain resistance (col. 2, lines 43-45).

(4)

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Such prior art is listed on PTO-892 A, C-E and G-H.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuangyi Abu-Ali whose telephone number is 571-272-6453. The examiner can normally be reached on Monday - Friday 7:20 AM- 3:50 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SA

  
J. A. LORENZO  
SUPERVISORY PATENT EXAMINER